

ABSTRACT OF THE DISCLOSURE

Disclosed is a projection exposure apparatus by a scan-exposure method. The apparatus includes an illuminating means for illuminating a mask transfer region, with illumination light for an exposure through an aperture of a variable field stop disposed in a position substantially conjugate to the mask; a driving means for configuring the aperture of the variable field stop in a rectangular shape (having edges orthogonal to a direction of the scan-exposure) and simultaneously making variable a width of the rectangular aperture of the stop in a widthwise direction (the scan-exposure direction) of the transfer region (pattern forming region) on the mask; and a control means for controlling the driving means to change a width of the rectangular aperture of the variable field stop in interlock with variations in position of the variable field stop on the mask transfer region which varies due to the one-dimensional movements of the mask stage. Also, a projection exposure apparatus includes an exposure mode selector which determines which one of a scan-exposure mode and a static-exposure mode is to be used for effecting an exposure of each of a plurality of shot regions on a photosensitive substrate by using information on

at least one of a layout of the plurality of shot regions on the photosensitive substrate, a required quantity of integrated exposure light on the photosensitive substrate, a form of the shot regions, a degree of resolution required for exposing a pattern image of a mask, and a permissible distortion, so as to instruct the determined exposure mode to an exposure controller.